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Peer Victimization, Self-esteem and Social Anxiety as Predictors of
Resilience: Gender Differences in Resilience Explored.

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1302490

MSc Family and Child Psychology

PS7112: Research Dissertation

2016 / 2017

University of Chester

Word Count: 11,126

Declaration Page

This work is original and has not been submitted in relation to any other degree or qualification.

Signed: J. Santos

Date: 25th September 2017

Acknowledgements

I would like to thank my supervisor Professor Mike Boulton for his continuous help and support throughout this entire process. I would also like to thank the other members of this research team; Megan Burns, Rachel Kirkham, Hannah Simpson, Cara Breen and Beth Pritchard as without them this project would have not been possible.

A final thanks to the Head Teachers and students at the various High for allowing us to collect data during school hours, we are all extremely grateful.

Supervisor Log



Department of Psychology

Research Module Meeting Log 2016/2017

NAME: Justine Katherine Santos

SUPERVISOR: Mike Boulton

Date	Discussion topics
01/03/2017	In this first meeting the general topics of interest were discussed and as a group we decided what areas we would be interested in researching. We were asked to prepare a list of topics and scales we would be interested in investigating.
08/03/2017	We discussed what scales we would be interested in testing and how to keep the scale at a suitable length. We also talked about general questions and concerns we had about the project.
15/03/2017	We selected the scales that we would be using and uploaded them onto Bristol Online Survey. We discussed our Ethics application and were told to start thinking about our literature review
22/03/2017	In this meeting we discussed the Ethics application as we would be aiming to submit this as soon as possible.

5/04/2017	Reviewed the Ethical Application and made slight amendments before submitting
10/05/2017	We received our ethical applications back and went over the reviewer's comments. Discussed what needed to be changed in the ethical amendment forms for the project to be approved.
24/05/2017	Full ethical approval was obtained so data collection could begin. We were told to start contacting schools and arrange dates to go in and collect data.
21/05/2017	In this group meeting we tracked our data collection progress and could ask Mike any questions we had. We arranged a date for another group meeting where we would discuss the write up of the dissertation.
12/07/2017	We got together as a group and discussed the project in depth. Mike went over what is expected of us in each section of the dissertation as well as answering any questions and queries we had about the logistics of the project. He also went through some of the possible hypotheses that we could get from our data and how we would go about doing the analyses for these hypotheses. We also set the draft deadline as the 1 st of September and stated that we would have an individual meeting (in person or over the phone) to get specialised and specific help on the analyses and the topics that we have chosen to look at.

SIGNED

STUDENT J. Santos DATE: 25.09.2017

SUPERVISOR _____ DATE: _____

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Abstract

Resilience has been highly studied in the last 40-50 years, however, there is still little known about what makes individuals that go through the same trauma have different life outcomes (Masten, 2011). 654 students, aged between 10 and 16 years, took part in this cross-sectional research. The student completed an online questionnaire comprised of; the Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003), Self-report Victimization Scale (Boulton et al., 2008), RCMAS (Reynolds & Richmond, 1985) and a Self-Esteem Scale (Thomaes et al., 2010). The aim of this study was to tests whether these predictor variables were unique and collective predictors of resilience. Results showed that all three predictors could collectively predict resilience ($F(3,516) = 71.8, p < 0.01$). Self-esteem and social anxiety were also able to uniquely predict resilience ($F(1,516) = 24.87, p < 0.01$; $F(1,516) = 57.65, p < 0.01$), however, victimization was not a significant predictor ($F(1,516) = 1.79, p = 0.18$). The researchers also concluded that there was a significant gender difference ($t(534) = 3.686, p < 0.01$), with males scoring higher than the females in this sample. The researchers concluded that individuals with high self-esteem and high social anxiety were more likely to bounce back from adversity and are at lower risk for negative effects. They also concluded that in adolescence males have higher resilience than females. The practical implications of this are discussed.

Peer Victimization, Self-esteem and Social Anxiety as Predictors of Resilience: Gender Differences in Resilience Explored.

In recent years, there has been a great amount of research conducted looking at resilience and attempting to define and understand the effects that this can have on individuals (Masten, 2011). This research attempts to gain a greater understanding into resilience in adolescence and will look specifically at factors that could predict resilience. It will also look at whether there are gender differences present in school aged children. First, resilience and its importance is discussed (see 1.1). This is then followed by the first of three predictor variables; resilience and victimization (see 1.2), resilience and self-esteem (see 1.3) and resilience and social anxiety (see 1.4). This is followed by an investigation into gender differences in resilience (see 1.5) and a summary of the current study's hypotheses (see 1.6). Finally, the importance of psychometric testing on the scales used in this study is explained (see 1.7).

1.1 General Introduction to Resilience

The first research into resilience came about in the 1970s when developmental psychologists were attempting to understand and prevent psychopathology (Masten, 2007). They were attempting to explain why children who experience the same life situations and hardships can have different outcomes in life (Masten, 2011). Research suggests that every individual, experiences at least one life-threatening event or trauma, however, this can lead to conflicting outcomes in individuals (Ozer et al., 2003 cited in Bonanno, 2004). Some go on to live normal lives whereas others suffer from psychopathology and negative outcomes such as problems with the law, emotional and behavioural problems, anxiety and depression (Veselska et al., 2009; Masten, Best & Garmezy, 1990).

Although there have been many advancements in the study of resilience it has been quite difficult to simplify it down to a single definition as it is a multifaceted and complex topic area (Kaplan, 2006 cited in Moore & Woodcock, 2017a). However, resilience is often

described as an individual having positive adaptation and normal development despite overcoming adversity, trauma and hardship (Luthar & Cicchetti, 2000). Many researchers believe that this is too vague and so resilience theory was developed to gain a greater understanding of the complexity of resilience (Masten, 2007).

Resilience theory attempts to explain the phenomenon through different waves. The first wave theorists believed that resilience could be measured by gaining an understanding of how certain adversities and negative situations impacted the individual and how this could place the child at risk for psychosis (Masten, 2007). They attempted to quantify the level of risk by considering their hardship and correlate this with certain individual characteristics, environmental influences and the role of the family (Masten, 2011). They also believed that this could be reversed using positive goals and influences (Masten, 2011). However, this was criticised for being too vague, therefore, the second and third wave of theorists attempted to identify risk and protective factors as well as testing how resilience could change through intervention and methods of prevention (Masten, 2007). Although resilience is hard to test in a laboratory setting due to ethical reasons, resilience has become a highly-researched area with advancements being made constantly (Shek, Chi & Lin, 2016). Researchers are constantly attempting to gain an understanding of this complex phenomena and attempt to find ways in which to reduce the chances of these at-risk children developing negative outcomes (Shek, Chi & Lin, 2016).

Some of the research in this area has shown that high levels of resilience can lead to positive outcomes such as better problem solving skills, higher sense of purpose, being more adaptable, having higher self-esteem, better academic achievement and greater hardiness and optimism, which could explain why these individuals are better at overcoming adversity and are less at-risk for psychopathology (Bernard, 1995 cited in Shek, Chin & Lin, 2016; Prince-Embury, 2007). However, those with low levels of resilience are at greater risk for negative outcomes (Masten, 2007). It is also important to investigate whether resilience can change with age and whether having low resilience as a child means that these individuals will always be at-risk (DuMont et al., 2007). Although there are very few

researchers that look at the longitudinal effects of resilience, DuMont et al. (2007) found that in their sample of 624 adolescents (aged 14-18), 50% were found to have high levels of resilience both in adolescence and in adulthood. They also concluded that approximately 10% of the adolescents that had been placed in the low resilience category had shown improvement in their resilience scores. This suggests that resilience is not set in stone and can fluctuate depending on the individual and their life experiences.

There are many factors that could affect resilience and the change throughout the individual's lifetime. DuMont et al. (2007) suggested that the family could play a large part, acting as both risk factors and protective factors depending on the individual. The family structure as well as the relationship between the child and their parent or caregiver could have a large effect on the adolescent's resilience (DuMont et al. 2007). This was supported by Carlton et al. (2006) who found that family support could be a strong protective factor as well as a strong risk factor. Those individuals who had a close and loving relationship with their parents and family members were more likely to have high levels of resilience. This suggests that in the study of resilience it is important to note that the individual's home life, family intactness, parent-child relationship and socioeconomic background will likely play a contributing role in resilience scores (Shek, Chi & Lin, 2016).

Therefore, it is important to investigate how certain characteristics and life experiences can act as both protective and risk factors. As with a lot of the research mentioned, this study aims to look at school aged children and adolescents. This stage in their lives can be extremely challenging as they are not only going through many biological changes, but also social ones (Moore & Woodcock, 2017a). Therefore, the present study investigated whether factors such as peer victimization, self-esteem and social anxiety can predict resilience and whether these factors can be labelled as protective and risk factors when attempting to understand resilience.

1.2 Victimization and Resilience

Peer Victimization (PV) is an important area in psychology as it is extremely prevalent, especially in school aged children (Sapouna & Wolke, 2013). American studies have found that one in three high school students are victims of peer victimization, 85% of these being victimized due to their sexual orientation or perceived sexual orientation (Sulkowski et al., 2014). A recent study looking at peer victimization across 40 countries also found that 26% of adolescents are somehow involved in peer victimization, approximately 12% as victims and 10% as bullies (Craig et al., 2009 cited in Sapouna & Wolke, 2013). These researchers also found that peer victimization begins to become a worry in primary school and slowly increases as the adolescents reach secondary school, this is said to peak when they are around 12-14 years old (Sapouna & Wolke, 2013). This suggests that not only is PV extremely prevalent in school aged children, like those who will be forming part of this sample, it is also a worldwide phenomenon (Sapouna & Wolke, 2013). Therefore, it is extremely important to understand how PV can be reduced as well as reducing the negative outcomes that are attributed to being a victim of peer victimization.

PV has many different definitions as it is usually an umbrella term used to describe different forms of victimization or bullying (Rigby, 2008). This is a complex topic to put a single definition on as it can take many forms and can be different for every individual (Rigby, 2008). PV can usually be broken down into verbal, physical and relational (Rigby, 2008), however, due to the increase in smart phones and social media, there has also been a rise on cyber-bullying (Moore & Woodcock, 2017b). PV can also be defined as causing physical pain to another child, leaving them out on purpose as well as spreading lies and rumours (Sapouna & Wolke, 2013). PV can manifest itself in many ways, however, there is also a lot of debate as to why prevalence is so high and why children bully in the first place, especially in high schools where the prevalence rates seem to be the highest (Moore & Woodcock, 2017b).

Evolutionary theory suggests that PV is an adaptive process as it is a worldwide phenomenon and happens in all social groups worldwide (Lines, 2008). Social Dominance

Theory believes that PV is a form of aggression used to obtain the best resources possible and have social dominance in their social group (Lines, 2008). This theory is supported by the fact that prevalence is highest when children are transitioning into a new school and new environment, suggesting that PV may be a way of seeking out their new status and dominance in their new social group (Pellegrini & Bartini, 2001 cited in Moore & Woodcock, 2017). However developmental psychologists believe that the reason prevalence is so high at this age is because the peer hierarchy is constantly changing (Moore & Woodcock, 2017b). Although these are all plausible theories, there is not a lot of research in this area in general and there is also a lack of research depicting the true reasons as to why individuals bully and who is most likely to become a bully or a victim (Sapouna & Wolke, 2013)

Although there is limited research in this area, the negative effects of PV are extensive and extremely dangerous and can even lead to suicidal ideation and suicide attempts (Hirschtritt et al., 2015). Hirschtritt et al (2015) looked at 9th and 11th grade students and found that children who had been a victim of PV were much more likely to have suicidal ideation than those who had never been a victim. This supports cross-sectional research that has found similar findings with victims of PV being at greater risk of suicidal ideation and suicide attempts (Kim et al., 2005). Kim et al (2005) also concluded that females in their sample were more likely to have suicidal thoughts and attempts after being a victim of PV. This highlights the importance of reducing PV and attempting to implement interventions that can help eliminate the risk of suicide ideation as 30% of individuals who have thought about suicide follow through with an attempt (Nock et al., 2013 cited in Hirschtritt et al., 2015).

However, not all children who have been victimized go on to have suicide ideation or suffer from negative effects, as some children seem to bounce back from being a victim and do not suffer from long-term consequences (Sapouna & Wolke, 2013). This justifies the current study into resilience and peer victimization as a greater understanding as to why not all children suffer from negative effects, can lead to a greater knowledge of what interventions can be put in place to ensure that less children suffer from these negative outcomes. Even though the outcomes can be extreme, there is not a lot of research that

aims to explain why people handle bullying in different ways, therefore, there is a need to keep investigating what factors could help reduce the chances of suicide ideation and help increase resilience (Moore & Woodcock, 2017a).

Moore & Woodcock (2017a) used a sample of 105 students who had been recruited from both primary schools and high schools. They attempted to investigate whether resilience could act as a protective factor for negative effects in children who had been a victim of PV. They concluded that those who had low levels of resilience were at greater risk for developing anxiety and depression than those who had high levels of resilience. They also found that children with low levels were more likely to be victims and were more likely to partake in victimizing behaviours (Moore & Woodcock, 2017a). This concluded that there was a link between peer victimization and resilience as resilience was able to act as a protective factor against negative outcomes such as anxiety and depression for children who had suffered from PV. However, the present study will not be attempting to look at anxiety and depression however, previous research still justifies the current study as it highlights the extreme negative effects that can occur because of PV.

Although Moore & Woodcock (2017a) speaks to the possible relationship between these two variables, it does not attempt to explain whether victimization is able to predict resilience and whether varying levels of PV are responsible for the varying levels of resilience in the sample. The sample size in this study is quite small and there is little known about the children's backgrounds and whether there are other factors that could be responsible for the variance in anxiety and depression scores. Therefore, it is difficult to make assumptions based on this piece of research alone. However, Donnon, (2010) did conclude that adolescents who have higher levels of resilience are less likely to be victims of PV and are also less likely to partake in aggressive acts towards others. Sapouna & Wolke (2013) supported these findings as they found that adolescents who had been victims of PV had lower depression scores if they had higher self-esteem, had a good parent-child relationship, strong family support and good sibling relationships. These are all factors that have been attributed to having high resilience (Masten, Best & Garmezy, 1990), therefore, it

can be assumed that these individuals had high resilience scores, however, this was not directly measured and therefore, direct comparisons can not be made.

Overall the little research that has been done justifies the need for the current study as further investigation into resilience and victimization is needed. The previously mentioned studies all highlight detrimental effects that could come from being a victim of PV and how factors associated with resilience can help reduce these risks, therefore a greater understanding of the link between PV and resilience is needed. By conducting this research, it is possible that interventions and practices can be put in place to help raise resilience levels and help minimize the negative effects that are attributed to PV.

Taking the previous research, specifically that of Moore & Woodcock (2017a) into account hypothesis 1(a) attempts to investigate whether victimization can uniquely predict resilience when controlling for self-esteem and social anxiety.

1.3 Self-Esteem and Resilience

Self-esteem was originally developed as part of Maslow's (1968 cited in Benetti & Kambourpoulos, 2006) hierarchy of needs model which suggested that to reach self-actualisation, specific needs (such as self-esteem) need to be met. Therefore, it is extremely important to understand the positive and negative effects of varying levels of self-esteem. Theorists believe that to have high life satisfaction and avoid negative outcomes, it is important that the individual seeks positive life experiences (Larson, 2000 cited in Benetti & Kambourpoulos, 2006). Various researchers have labelled self-esteem as a key protective factor that is able to predict loneliness, suicidal ideation and psychological disorders (Kidd & Shahar, 2008). High levels of self-esteem have also been linked with an advanced knowledge of what has been called "street smarts", which is also believed to be linked with resilience (Kidd & Davidson, 2007 cited in Kidd & Shahar, 2008). Therefore, it is important to investigate the relationship between these two variables to develop interventions that could help increase self-esteem and, in turn, reduce the risk of negative outcomes.

Self-esteem and resilience are often used to explain why some individuals can overcome adversity as they are able to act as protective factors for various negative outcomes such as loneliness and psychological distress (Liu et al., 2014). Resilient individuals are believed to have high self-esteem, advanced coping mechanisms, internal locus of control and self-efficacy (Block & Kremen, 1996 cited in Liu et al., 2014). Furthermore, high levels of self-esteem have also been correlated with reduced anxiety, depression and is believed to be of critical importance in good psychological adjustment (Yu & Zhang, 2007). Therefore, this justifies the current study's need to investigate both variables further as a greater understanding of their relationship will help develop interventions that could minimize the severity of symptoms in psychological disorders such as anxiety and depression (Liu et al., 2014).

Although there is a lack of research that looks exclusively at the relationship between resilience and self-esteem there have been studies that have investigated the relationship between trait anxiety, self-esteem and trait resilience. Bonanno (2004) believed that negative affect was related to high levels of trait anxiety and self-esteem, therefore stating that having positive affect (or higher levels of resilience) could increase self-esteem. Benetti & Kambouropoulos (2006) also investigated the relationship between positive and negative affect and trait anxiety, self-esteem and trait resilience. These researchers recruited 240 university students and used the CD-RISC to test how self-esteem and trait anxiety were influenced by positive and negative affect. They found that when subjected to positive affect, trait resilience had a significant positive effect on self-esteem, highlighting that there is a possibility that resilience can predict self-esteem and vice versa.

Although this study used the same resilience scale that will be used in the current study (CD-RISC) and justifies the use of this scale, it is possible that this research is measuring something that the current study will not. This study looks at the direct effects of positive and negative affect, however, the current study will not be looking at this variable. It is possible that this study is measuring resilience and self-esteem at a specific point in time.

Life is full of positive and negative affect which means that the individuals own life experiences could greatly affect the results of the study.

Arslan (2016) attempted to investigate how self-esteem and resilience are able to act as mediating factors to prevent emotional and behavioural problems in adolescents. These researchers also looked at 14-19 year olds, which justifies the sample in the current study. A regression model concluded that resilience and self-esteem could predict emotional and behavioural problems when psychological maltreatment was present. This suggests that these two variables collectively act as a protective factor for emotional and behavioural problems. This study also justifies the need for further investigation into the relationship between self-esteem and resilience, however, the results of this study can not be used to predict the findings of the current study as the sample used, although quite large, is very specific and targeted. The individuals in this sample have suffered from psychological maltreatment and it is possible that this life event may be directly affecting the outcome. This, however, does highlight the need to be aware of individual differences in the current study.

The possible relationship between resilience and self-esteem is also supported by Veselska et al. (2009). These researchers conclude that in their sample of 3694 adolescents, boys who had low self-esteem were more likely to experience risky behaviour and adolescents with strong family structure and support were less likely to smoke or use cannabis. This suggests that both variables can predict risky or illegal behaviour in adolescents. It also suggests that by having a greater understanding of other factors that can be affected by self-esteem and resilience, it can give a greater understanding of how to minimize these negative effects by increasing self-esteem and resilience in adolescents.

Taking the limited research in this area into account, specifically that of Bennetti & Kambouropoulos (2006), there is a great amount of justification for further investigating whether there is a relationship between these two variables and whether self-esteem can predict resilience. Therefore, hypothesis 2(b) will attempt to investigate whether self-esteem

is able to uniquely predict resilience when controlling for peer victimization and social anxiety.

1.4 Social Anxiety and Resilience

Social anxiety is an anxiety disorder that is extremely prevalent, especially in adolescence and early adulthood (Kessler et al., 2005 cited in Clauss et al 2014). Although anxiety disorders are hard to define as they are multifaceted and present themselves in different ways depending on the individual (Rosenbaum et al., 1994 cited in Schwartz, Snidman & Kagan, 1999), researchers believe that they are caused by temperament in early childhood (Clauss et al., 2014). Temperament refers to moods and behavioural profiles that is exhibited in early childhood, usually labelled as inhibited and uninhibited (Schwartz, Snidman & Kagan, 1999). Children who have inhibited temperaments show a lot of worry, increased anxiety especially in social situations and heightened arousal (Clauss et al., 2014). These individuals are usually very uncomfortable around others and in social situations and are known to withdraw or avoid them (Clauss et al., 2014). These are the children who are believed to be most at-risk for developing social anxiety later in life (Shwartz, Snidman & Kagan, 1999)

Although researchers believe that there is a clear link between inhibited temperament and social anxiety disorder, not all children who have this temperament go on to develop the disorder later in life (Clauss et al., 2014). Clauss et al. (2014) researched how brain function and resilience could help explain why not all inhibited children go on to suffer from anxiety disorders and found that high resilience was related to high levels of activation in the ACC. Those with inhibited temperaments who displayed high activation in the ACC had low levels of social anxiety and better emotional skills. These researchers suggested that high activation of the ACC and high resilience could help reduce social anxiety.

This research justifies the need for the current research to investigate the relationship between social anxiety and resilience as there does appear to be a link between these two variables. However, it is important to note that this study had a relatively small sample and

looked at cases where the temperament was extreme, therefore, it is difficult to generalise these results to the general population. This study also focuses on brain scans which will not be used in the current study.

Other studies that have looked at the relationship between these two variables have chosen to look at samples that have been diagnosed with depression and/ or anxiety disorders (Min et al., 2012; Min et al., 2013). Min et al. (2012) studied 178 outpatients who had been diagnosed with depression and attempted to understand how resilience and trait anxiety was able to affect the success of treatment in these patients. They found that resilience and trait anxiety were both able to significantly predict the success of the treatment. This highlights the possible relationship between these two variables and how this can go as far as affecting how successful treatment can be. Therefore, justifying the importance of gaining a deeper understanding of the interaction between these two variables and how they can affect the outcome of certain treatments, increasing the individual's quality of life.

Although this study is important in justifying the importance of these variables, it is important to note that this study only focused on individuals who had been diagnosed with depression and the sample size is relatively small. It also looks at trait anxiety and not specifically social anxiety which is what will be looked at in the current study. However, it does highlight the variables ability to predict the outcome of treatment, therefore, it would be beneficial to understand whether this was due to the interaction between these two variables alone. If this is the case, researchers will be able to develop interventions to raise resilience, lower anxiety and possibly lower the risk of these adolescents developing depression later in life.

The current study has chosen to look at social anxiety and not trait anxiety like the previous study as social relationships are extremely important in adolescence as it can affect well-being and academic success (Rothson et al., 2011). The strength of friendship groups, lack of peer victimization and peer support have all been linked to positive outcomes and higher levels of resilience (Sun & Stewart, 2007). High levels of resilience have also been

shown to predict low levels of depression, anxiety and stress (Hjemdal et al., 2011).

Therefore, individuals with social anxiety and low resilience, who may not have this peer support, may be at risk for developing psychological disorders such as anxiety and/or depression.

Therefore, the current research aims to investigate whether social anxiety can predict resilience and whether there is a relationship between these two variables. Considering the findings from Min et al's (2012) study, Hypothesis 2c will investigate whether social anxiety can uniquely predict resilience when controlling for peer victimization and self-esteem.

1.5 Gender Differences in Resilience

The research discussed thus far aims to justify the investigation of these predictor variable and their ability to predict resilience, however, individual differences is a key issue that has been discussed throughout. Many researchers have suggested that there is reason to believe that there are gender differences in resilience, however there is a lot of conflicting research (Shek, Chi & Lin, 2016).

Researchers believe that there are many factors that could be affected by gender such as; empathy, peer support, goal setting and help-seeking which could affect how resilient an individual is (Sun & Stewart, 2007). In general females are believed to have a higher pain tolerance and can overcome traumatic events better than males (Shek, Chi & Lin, 2016). Females are also believed to be more optimistic, and less likely to act out aggressively when in high stress situations (Moore & Woodcock, 2007a; Masten, Best & Garmezy, 1999), however they also suffer from greater levels of anxiety, are at greater risk for developing anxiety and depression and struggle to overcome being a victim of peer victimization (Moore & Woodcock, 2017a; Masten, Best & Garmezy, 1999). However, in terms of resilience, the research findings are still uncertain (Lakomy & Kafkova, 2017).

There have been studies that have concluded that females have higher resilience than males, like for example, Hsieh & Shek (2008). These researchers investigated how gender, academic performance and family affected resilience in 291 adolescents. They

concluded that females had higher personal and academic resilience than the males in this sample. This was supported by Masood, Masud & Mazahir (2016) who concluded that in their sample of 50 burn victims there were gender differences in both levels of resilience and psychological distress. Although this highlights that gender differences were present, it is important to highlight that these studies used different resilience scales than the current study. The samples chosen in the previous studies are also relatively small and exclusive. Hseih & Shek (2008) were interested in children who came from single parent households, whereas, Masood et al (2016) looked at individuals who had suffered a very specific trauma which had resulted in burns. This suggests that although useful, these findings can not be generalised to the general population.

There are also various researchers that have found conflicting results. For example, in the longitudinal study that aimed to investigate gender and family factors and their effect on resilience in Hong Kong adolescents (Shek, Chin & Lin, 2016). These researchers concluded that there were no gender differences in resilience at the beginning of the study or throughout the 6- year study period. Sun & Stewart (2007) also concluded that there were no gender differences in their larger sample of 2492 participants. However, this study looked at children who were between the ages of 8 and 12. This sample is younger than the one used in the current study, therefore these findings can not be generalised to the current sample.

Interestingly, Bonanno et al (2007) also found conflicting results as they concluded that although gender was a significant predictor of resilience, females displayed lower levels of resilience than the males in their sample. Although this is an important piece of research as it gives an insight into the conflicting literature, it is important to highlight that this study looked at individuals who had endured an extremely traumatic event close to their home towns (i.e. 9/11). Therefore, this study cannot be generalised to the entire population especially because not all individuals in the current study have had to endure traumatic events such as the one in this study. However, this justifies the need to gain a greater understanding of whether there are gender differences in resilience as so far, the research in this area is extremely conflicted.

Taking the previous research into account, specifically the findings of Bonanno et al (2007), Hypothesis 3 states that there will be gender differences in resilience.

1.6 Summary of Hypotheses

Based on the extensive literature review done on the individual predictive variables and their relationship with resilience, the researchers will aim to answer three hypotheses. Hypothesis 1 states that Victimization, self-esteem and social anxiety will uniquely predict resilience. The second hypothesis states that victimization, self-esteem and social anxiety will collectively predict resilience. Finally, the researchers will investigate whether there are gender differences in resilience scores. Therefore, hypothesis 3 states that there will be a significant difference between male and female resilience scores.

1.7 Psychometric Testing

Although the scales chosen are highly used psychological measures the researchers decided to test the psychometric properties of the scales that they would be using as part of this research. In this case, the Self-Report Victimization Scale (Boulton et al., 2008), Social Anxiety sub scale from the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985), the concise version of the Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) and the Self Esteem Scale (Thomaes et al., 2010) were all tested for validity and reliability.

When testing for reliability it is important that a criterion is set, especially when working with Cronbach's alpha, as is the case in this study. Cronbach's alpha is able to test how each item correlates with every other item in the scale and looks at every possible combination of items and their relationship (Pallent, 2013). Researchers have debated on what alpha should be accepted as a good indicator of internal reliability, in this case a criterion of 0.7, as set by Pallent (2013) is being used.

The validity of each scale is also going to be examined using a principle components analysis (PCA). As there is controversy surrounding the accuracy of the methods used to

establish the number of main factors (Field, 2009), both a scree plot (Cattell, 1966; cited in Field, 2009) and Kaisers criterion (1960 cited in Field, 2009) will be used. In the scree plot, the point of inflection will be determined and the number of factors to the left will be identified as an important factor (Pallent, 2013). When looking at Kaiser's criterion, any factor with an eigenvalue greater than 1, will be identified as an important factor (Field, 2009).

A PCA also identifies the factor loadings in the scale. This identifies how much each individual item contributes to the main factor (Field, 2009). There has been controversy surrounding what can be identified as a high factor loading (Field, 2009). In this case, due to the sensitive nature of this research Stevens (2002 cited in Field, 2009) criterion was used to establish what would be considered as a high factor loading. Stevens (2002) stated that in this case, any factor loading above .4 could be considered a high factor loading.

Method

Participants

654 10-16-year-old students from a variety of different High Schools in the UK and Gibraltar were recruited using opportunity sampling. 327 females and 281 males completed the entire survey as well as 46 participants who either stated they preferred not to disclose their gender or left that question out. Majority of the students who took part in the study were aged between 12 and 14 (75.5%). A full breakdown of the demographics in this study can be found in Table 1 (Table 1: Frequency Table for Age and Gender). Before data was collected the head teacher from each school gave their overall consent on behalf of the children, however, students were also required to give their informed consent before proceeding with the survey.

Measures

The first measure that was used in this study was developed by Connor & Davidson (2003) and attempts to measure resilience using a 10-item scale with a 5 point Likert Scale

as its response option. The Concise version of the Connor-Davidson Resilience Scale (CD-RISC; Appendix A: Resilience Scale) uses all positively worded items such as “I am able to adapt to change” and “I can deal with whatever comes” and allows participants to respond with either; “not true at all”, coded as 0, “rarely true”, coded as 1, “true sometimes”, coded as 2, “true often”, coded as 3 or “true all the time”, coded as 4. The higher the participants overall score, then the higher their resilience.

Peer Victimization was measured using a Self-Report Victimization Scale developed by Boulton et al (2008; Appendix B: Victimization Scale). This scale is made up of 4 items which set out to measure 4 distinct types of peer victimization. Participants are expected to answer using a 4 point Likert scale which was coded as 0 for “Never”, 1 for “not very often”, 2 for “sometimes” and 3 for “lots of times”. An example question is, “How often in the last year has another child called you nasty names to make you feel bad”. A high score on this scale would suggest that the participant has been a victim of peer victimization in the last year.

Social Anxiety was measured using a 7-item scale which was taken from a sub-scale of the Revised Children’s Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985). This is a common scale used to measure various types of anxiety disorders in children. An example of some of the questions asked are “A lot of people are against me” and “Other people are happier than I am”. The full scale can be found in Appendix C (Appendix C: Social Anxiety Scale). This scale uses all negatively worded items so that a high score signifies a high level of social anxiety. This scale also uses a 4 point Likert scale which has been coded as; 0 for Totally true, 1 for quite a lot true, 2 for only a bit true and 3 for not at all true.

Finally, a 6-item scale developed by Thomaes et al., (2010; Appendix D; Self Esteem Scale) was used to measure the participant’s self-esteem. This scale used both positively worded items such as “I am proud of myself right now”, and negatively worded item like “I feel down on myself right now”. The negatively worded items were recoded so that they were in line with the positively worded items and a high score meant that the person had

high self-esteem and a low score meant low self-esteem. The response options in this scale were also on a 4 point Likert scale. These response options were coded as; 0 for never, 1 for not very often, 2 for sometimes and 3 for lots of times.

Procedure

Before any data could be collected the researchers received the consent of the Head Teacher from each school that would be used in the data collection as well as receiving full ethical approval from the University of Chester Psychology Department Ethics Committee (Appendix E: Ethical Approval Forms). The head teachers were told the general aims of the study and that it would take approximately 15-20 minutes for the children to complete the survey. The researchers went into the classroom and asked each child to follow the link to the Bristol Online Survey website where they would be required to read the information page in depth. For the full questionnaire including information sheet, see Appendix F (Appendix F: Relationships Questionnaire).

The participants were informed that by continuing to the first question they were giving the researchers their informed consent. If they did not wish to take part, then they were told to exit the page and continue with some personal work or wait for their peers to finish if they did not want others to know that they were not taking part. Participants were also informed that they could withdraw at any point up until they had submitted their final answers. They were told that as it was anonymous their data could not be removed once it had been submitted. If they did wish to take part, then they were encouraged to answer the questions as honestly as possible

They were first asked general demographic questions such as age and sex. The participants were asked if they were male, female or prefer not to say and this was coded as 0 for males, 1 for females or 2 for prefer not to say. They were also asked to state their age and this was coded as such; 0=10, 1=11, 2=12, 3=13, 4=14, 5=15, 6=16.

This was then followed by the Self-report peer victimization scale (Boulton et al., 2008). This scale required the participants to answer on a 4 point Likert scale how often they

had been the victim of a variety of different types of peer victimization. This short scale measures physical, emotional, cyber and accidental bullying. The participants then completed an 8-item friendship quality scale (Bukowski, Hoza & Boivin, 1994) which measured the individual's friendship quality and friendship problems. Participants were asked about how much time they spent with their friends as well as how often there were quarrels and disagreements in the friendship. This was measured using a 4 point Likert scale with low levels measured as "never" and high levels as "lots of times". This same Likert scale was used when measuring self-esteem with a 6-item self-esteem scale (Thomaes et al., 2010). Participants were asked about how they felt about themselves at that moment. For example, they were asked whether they were satisfied and proud of themselves at that moment.

This was followed by a 5-item perceived positive effects scale (Boulton, in progress) where the students were asked to rate whether they believed that there were possible positive effects to peer victimization on a 4-point Likert scale from "Not at all" to "Very much". They then completed a sub-scale of the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985). This 7-item scale required the participants to rate how they felt they compared to others and what they thought others thought of them on a 4-point Likert scale from "Totally true for me" to "Not true at all for me". Students were then asked whether they owned a smartphone, if so how many hours a day they spent using it and what sort of behaviours they exhibit and experience on various social media sites. This scale was taken from Global Kids Online (2016) quantitative toolbox as it is a tool being used in cross-cultural data collection. This was followed by a 10-item resilience scale (Connor & Davidson, 2003) where the student's resilience was measured using a 5 point Likert scale varying from "not true at all" to "true all of the time".

Finally, students were debriefed. They were reminded of the aims of the study as well as reiterating that all results are anonymous and confidential. Although all the scales chosen are widely used and have little risk of causing the participants any harm, they were reminded that they were to speak to their teachers or school support staff if they felt like they had felt

any discomfort when taking part. They were given the information for other support services such as Child Line and were thanked for their participation. See Appendix G for the debrief sheet that was presented to all participants (Appendix G: Debrief Page)

Design and Analysis

This cross-sectional survey design aimed to investigate whether victimization, self-esteem and social anxiety are predictors of resilience in school aged children. No data was removed from the data set so all 654-participant's data was used in the analysis. A multiple regression was chosen as the method of analysis as this statistical test allows the researchers to investigate how two or more variables can affect the outcome variable, in this case resilience (Pallent, 2013). This was the method used to test hypothesis 1a, b and c and hypothesis 2.

The current researchers used a series of hierarchal regressions to establish whether each predictor variable could independently predict resilience and whether this was to a significant level. This was done to test hypothesis 1a, b & c. The hierarchal regression aims to establish how much each variable can independently predict the dependent variable (Pallent, 2013). This was done by including the predictor variables that they were not looking at first and then isolating the one that the researchers were interested in and placing this variable in last. This would show how much variance the predictor variable they were specifically looking at was responsible for. The researchers looked at the F values as well as the Beta values if the results were significant. The Beta values would be useful to look at if the results of the hierarchal regression were significant as these values could be used to predict an individual person's resilience score and will also reveal the direction of the predictive relationship (Pallent, 2013). For example, a negative beta suggests that high levels of the predictor variable will predict low levels of resilience.

A multiple regression was used for hypothesis 2, to find whether the three predictor variables; victimization, self-esteem and social anxiety could collectively predict resilience

(i.e. the dependent variable). To test whether these variables accounted for a significant amount of variance in resilience the researchers looked at the f values as well as the significance levels. For the results to be significant, the p value had to be smaller than .05.

Finally, the researchers set out to test hypothesis 3. This was testing whether there were gender differences present in resilience, attempting to answer whether the males or females in this data set had a higher level of resilience. As this is a test of difference with two levels an independent samples t -test was used to investigate this hypothesis. The researchers looked at the t value as well as the means and standard deviation for both the male and female conditions as well as the significance levels. Once again, a p value smaller than .05 would signify a significant difference.

Results

Recruitment continued until over 600 participants, had completed the survey which resulted in 654 participants in total. The general demographic breakdown and frequencies can be found in Table 1 below. Due to the sensitive nature of the research, students were told that they did not have to answer any questions that they were not comfortable answering. This resulted in some student not completing every scale. An average for each scale was calculated and the descriptive statistics can be found in Table 2 below. Only data from student who had completed all 4 scales could be used in this research, which resulted in 516 participant's data being used in the analysis.

Table1: Frequency table for Age and Gender

	Frequency	Percentage
<i>Gender</i>		
Male	281	43 %
Female	327	50 %
Prefer not to say	40	6.1 %
Missing	6	.9 %
Total	654	100 %
<i>Age</i>		
10	15	2.3 %
11	85	13 %
12	140	21.4 %
13	212	32.4 %
14	142	21.7 %
15	37	5.7 %
16	15	2.3 %
Missing	8	1.2 %
Total	654	100%

Table 2: Descriptive Statistics for all variables.

	N	Mean	Standard Deviation
Victimization	639	.827	.724
Resilience	578	2.248	.82
Self-esteem	618	1.99	.721
Social anxiety	597	12.737	5.062

Once the descriptive statistics were run, the researchers conducted a Pearson's correlation on the three predictor variables and the outcome variable (DV). The purpose of this test was to determine whether there were relationships between the variables. The variables should have a high correlation as this shows that there is a relationship between the variables and therefore it is possible for one to predict the other (Pallent, 2013). However, this correlation between predictors in the same model should not be higher than .7, as if this is the case, it can be assumed that the variables are going after the same variance and there is very little unique variance between the variables (Pallent, 2013). This would suggest that the predictors are redundant and there would be problems with multicollinearity (Pallent, 2013). The results of the Pearson's Correlation can be found in Table 3. As shown in the table, all 4 variables are significantly correlated, however, none have a correlation greater than .7, so therefore, there should not be any problems with multicollinearity.

Table 3: Correlations among variables

Variables	1	2	3	4
1. Victimization	1			
2. Resilience	-.297*	1		
3. Self-esteem	-.480*	.467*	1	
4. Social Anxiety	-.590*	.525*	.599*	1

*p<0.01

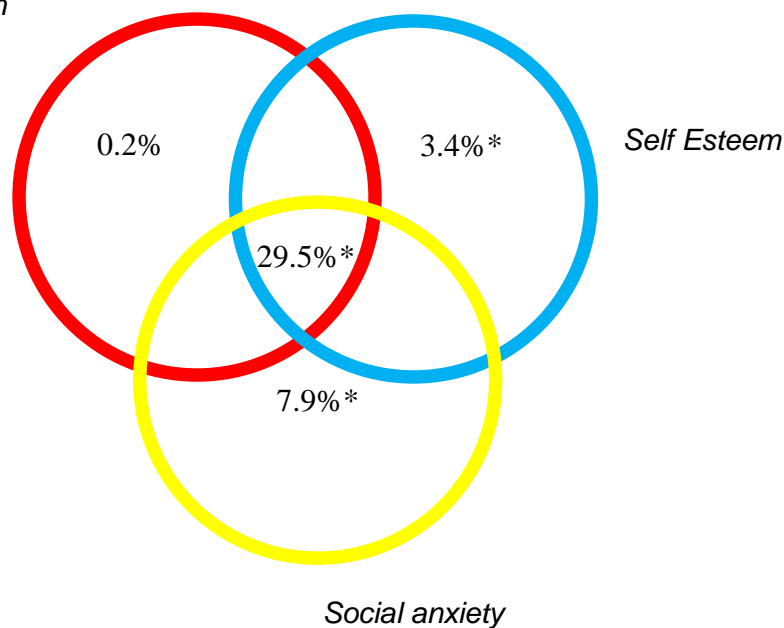
Hypothesis 1

A series of hierarchal regressions were run to conclude whether victimization, self-esteem and social anxiety can individually predict resilience. Unique prediction of resilience from victimization, after controlling for self-esteem and social anxiety was 0.2% of variance, this was not significant, $F(1,516) = 1.79, p=.18$. The next regression found that unique

prediction of resilience from self-esteem, after controlling for victimization and social anxiety was 3.4% of variance, this was significant, $F(1,516) = 24.87$, $p < 0.01$. Finally, unique prediction of resilience from social anxiety, after controlling for victimisation and self-esteem was 7.9% of variance, this was significant, $F(1,516) = 57.65$, $p < 0.01$. A Venn diagram depicting these results can be found below (Figure 1)

As the results of the hierarchical regression showed that two of the variables could uniquely predict resilience, the beta values for these were analysed in order to determine the direction of the predictive relationship. Self-esteem had a beta value of .241, $p < 0.01$ and social anxiety had a beta value of .397 $p < 0.01$. As both beta values are positive, it suggests that the higher the individual's self-esteem and social anxiety score is, the more resilient the individual is.

Victimization



* $p < 0.01$

Figure 1: Venn Diagram depicting variance in resilience accounted for by victimization, self-esteem and social anxiety, uniquely and collectively.

Hypothesis 2

A multiple regression was conducted to test whether victimization, self-esteem and social anxiety could collectively predict resilience. Victimization, self-esteem and social anxiety when entered together were found to predict a significant amount of variance (29.5%) in resilience, $F(3,516) = 71.8$, $p < 0.01$.

Hypothesis 3

An individual samples t-test was conducted to investigate whether there are gender differences in resilience. Results showed that there is a significant difference in the scores for male ($M = 2.41$, $SD = .85$) and female ($M = 2.15$, $SD = .737$) conditions; $t(534) = 3.686$, $p < 0.01$. Figure 2 shows the means and standard deviations for both conditions.

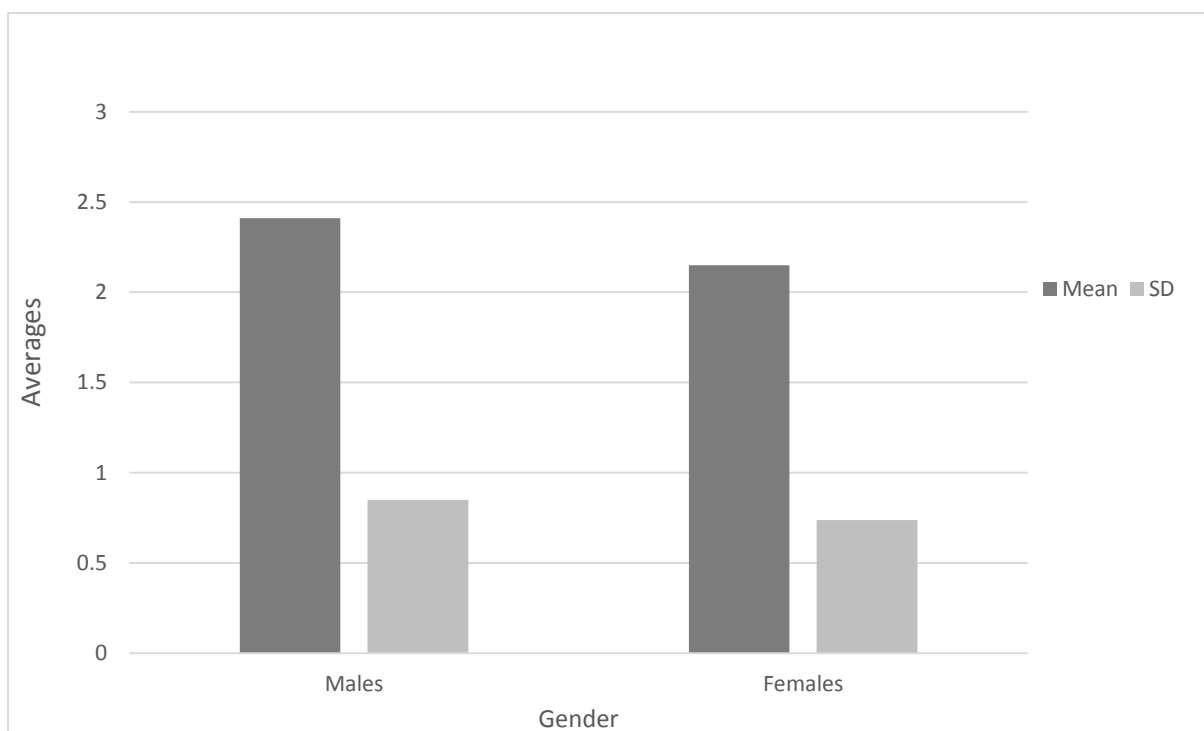


Figure 2: Bar chart depicting the relationship between male and female resilience scores

Psychometric Testing

The 10-item resilience scale was tested for reliability using Cronbach's alpha. It was found that this scale had a Cronbach's alpha of .879 with all 10 items individually scoring above the .7 criterion, meaning that this scale has high internal reliability and no items were removed. A principle components analysis was used to test the scales validity. Both a scree plot (Cattell, 1966; Figure 3: Scree Plot depicting eigenvalues for the internal validity of the resilience scale) and Kaisers criterion (1960 cited in Field, 2009) agreed that the scale was unidimensional and only measures one main factor which can be assumed to be resilience. It was suggested that all factor loadings should be above .4 to state whether they contribute to the factor, in this case all 10 items scored greater than .4. The main factor explains 48.4% of variance in this sample so it can be concluded that this scale has good internal validity.

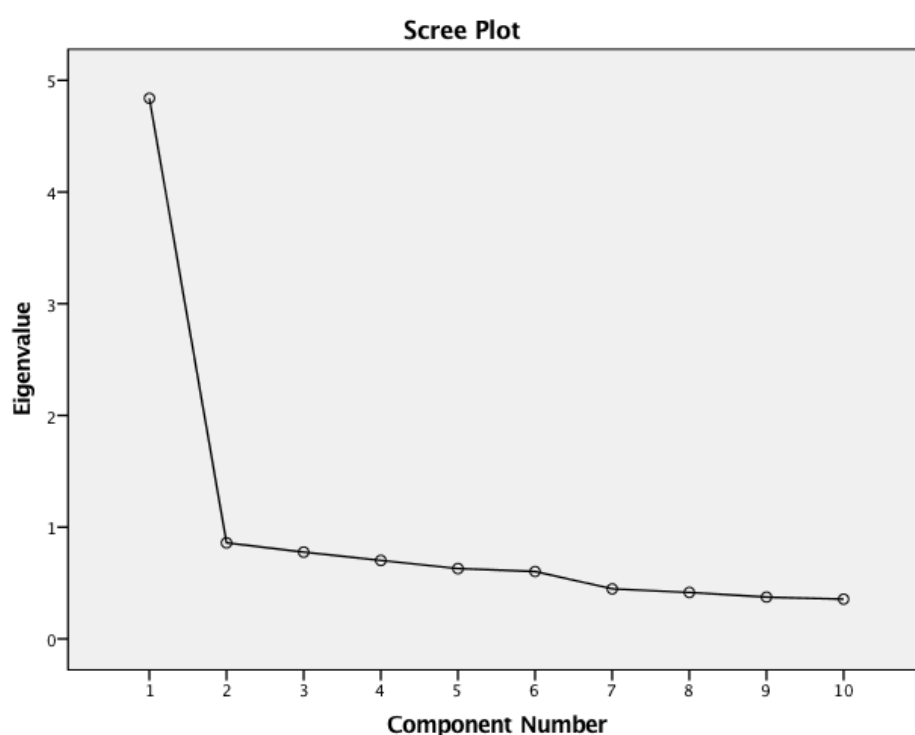


Figure 3: Scree Plot depicting eigenvalues for the internal validity of the resilience scale

Results showed that the 4-item victimization scale had a Cronbach's alpha of .769. Once again this was higher than Pallent's (2013) criteria of .7 so it was concluded that this

scale has high internal reliability. A principle components analysis concluded that the scale is measuring one main factor and was a unidimensional scale. This was found in both the scree plot (Figure 4: Scree Plot depicting eigenvalues for the internal validity of the Victimization scale) and using Kaiser's Criterion (1960 cited in Field, 2009). It was found that all 4 items had a factor loading greater than .4 and, therefore, can be said to contribute highly to this main factor. The main factor explains 59.15% of variance which suggests that this scale has good internal validity.

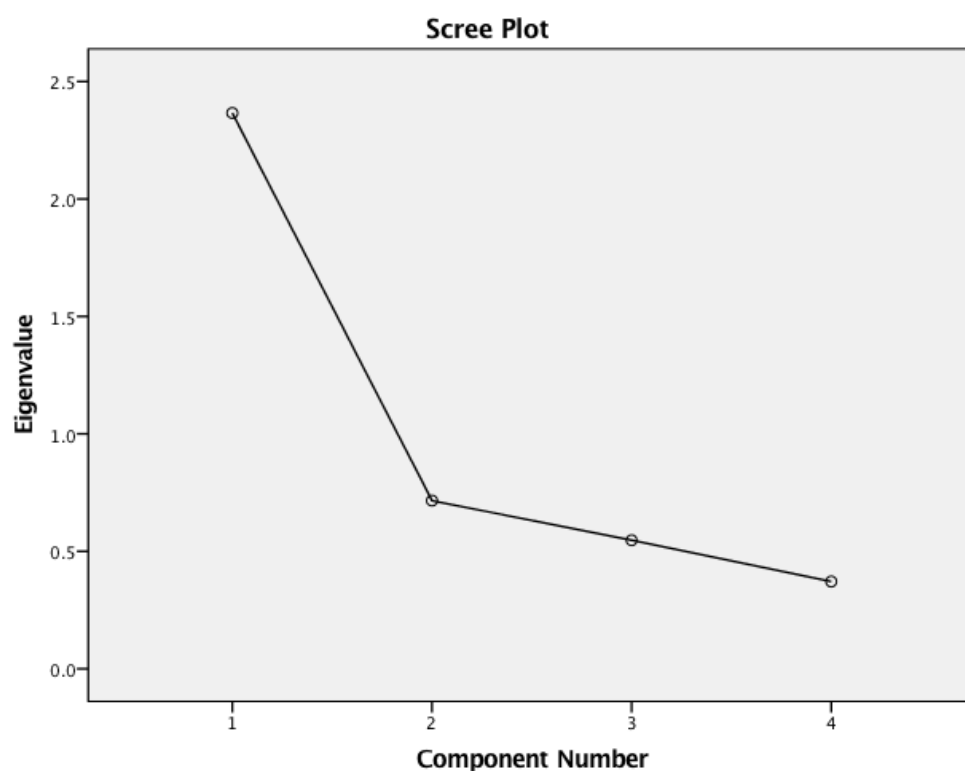


Figure 4: Scree Plot depicting eigenvalues for the internal validity of the Victimization scale

Researchers found that the self-esteem scale had a Cronbach's alpha of .872, this is greater than the criterion set so therefore it can be assumed that this scale has high internal reliability. A Scree Plot (Figure 5: Scree Plot depicting eigenvalues for the internal validity of the Self-esteem scale) showed that there was only one main factor in this scale, however, Kaiser's criterion (1960 cited in Field, 2009) concluded that there were two main factors.

Considering the results of the scree plot and the eigenvalues, the researcher concluded that there was only one main factor as the eigenvalue for the first factor (3.662) is much greater than the eigenvalue for the second (1.026). It has also been stated that Kaiser's criterion (1960, cited in Field 2009) can overestimate how many main factors there are (Field, 2009) so therefore, the researchers concluded that this scale was in fact unidimensional. It was also found that all 6 items contribute highly to the main factor and the main factor can explain 61.03% of the variance in this sample. This signifies that this has good internal validity

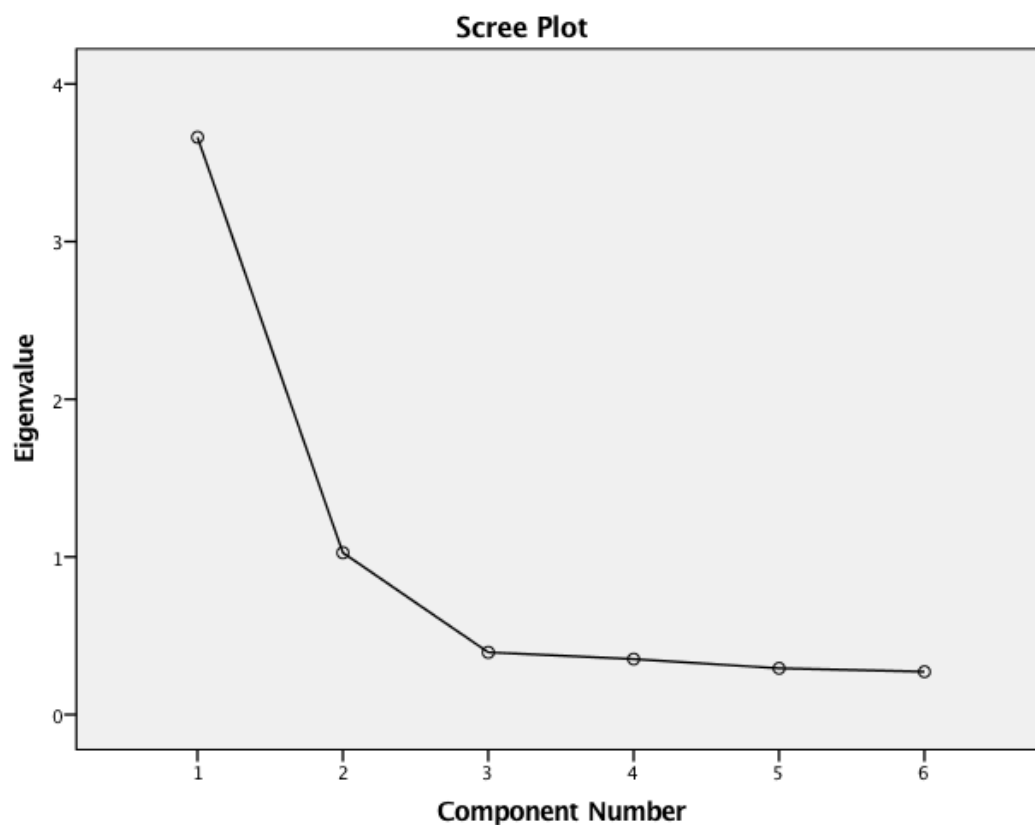


Figure 5: Scree Plot depicting eigenvalues for the internal validity of the Self-esteem scale

The 7-item scale social anxiety scale was tested for internal reliability and it was concluded that it had a Cronbach's alpha of .851. This is greater than the .7 criterion (Pallent, 2013) set so it can be concluded that this scale is reliable. A Principle Components

analysis was used to establish the scales internal reliability. Both a Scree Plot (Figure 6: Scree Plot depicting eigenvalues for the internal validity of the social anxiety scale) and Kaiser's criterion (1960 cited in Field, 2009) concluded that this scale is measuring one main factor which can be assumed to be social anxiety. All 7 items also contribute highly to the main factor, as each have a factor loading higher than the .4 criterion set. The main factor accounts for 53.48% of variance in this sample so it was concluded that this scale also has good internal validity.

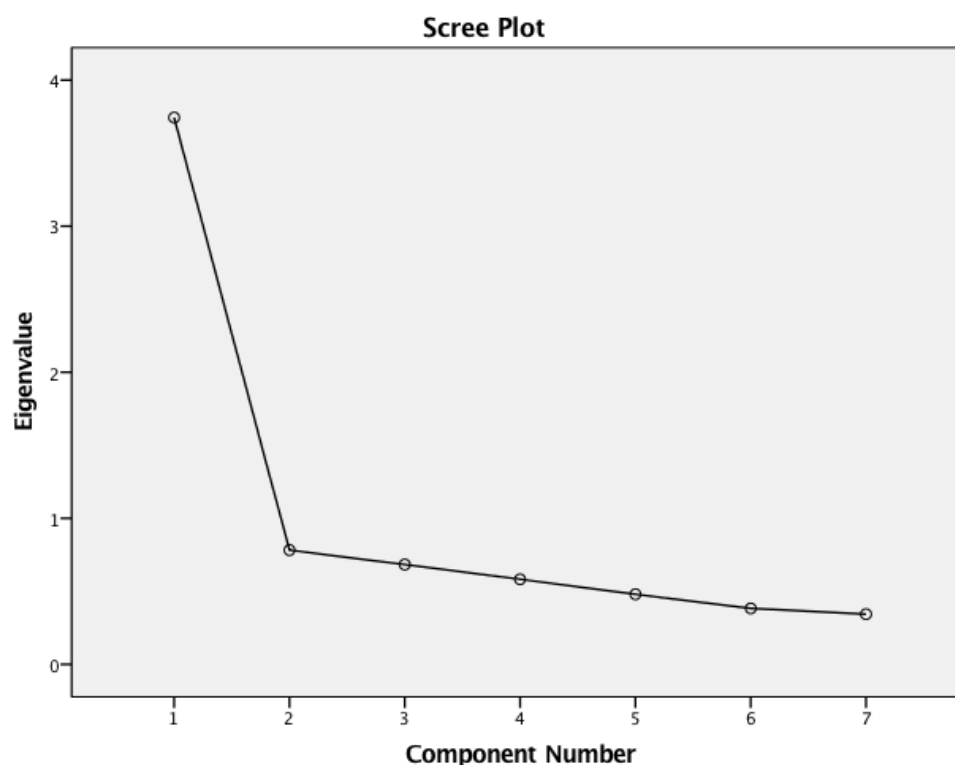


Figure 6: Scree Plot depicting eigenvalues for the internal validity of the social anxiety scale

Discussion

The current study set out to investigate whether peer victimization, self-esteem and social anxiety could collectively and uniquely predict resilience in a sample of 516 school aged children aged between 10 and 16 years old. The results of the regression model showed that all three predictor variables could collectively predict resilience, however only

two were able to uniquely predict. Self-esteem and social anxiety were able to uniquely predict resilience and were responsible for a large amount of the variance in this sample. This means that hypothesis 1a was rejected whereas, hypothesis 1b, 1c and 2 were accepted. Hypothesis 3 set out to test whether there were gender differences in resilience. It was found that there were significant gender differences in resilience as males in this sample scored significantly higher than females. This meant that the experimental hypothesis could also be accepted.

These results suggest that an individual with high self-esteem and high social anxiety will also have a high level of resilience. This suggests that an adolescent who has high self-esteem will be able to bounce back from adversity with ease. However, those who struggle to overcome life challenges may struggle from negative effects because they may also have low self-esteem which is independently related to negative effects such as anxiety and depression (Benetti & Kambouropoulos, 2006). Therefore, the presence of negative effects after adversity and challenges may be due to the presence of other factors such as low self-esteem or low social anxiety as well as low resilience.

Although the current research was correct in believing that social anxiety would be able to uniquely predict resilience, the direction of the relationship was unexpected. When considering previous research, it would be believed that low social anxiety would predict high levels of resilience (Min et al., 2012), however, this was not the case. These findings concluded that high levels of social anxiety predicted high levels of resilience. As this study is one of the first of its kind it is difficult to explain why this was the case, however, there are possible reasons as to why this could be. These reasons are discussed below under Victimization and social anxiety.

Victimization and Resilience

Although PV has been shown to be an extremely prevalent and important aspect in children of this age group, due to the change in social groups and social environment (Sapouna & Wolke, 2013; Moore & Woodcock, 2017b) this variable was not able to

significantly predict resilience in the current sample. This does not support previous researchers, such as Moore & Woodcock (2017a) who suggested that there was a relationship between these variable as those who had been victimized and had low levels of resilience had a higher risk of developing psychological disorders such as depression and anxiety. However, the current study did not look at the possible negative effects that have been associated with high levels of PV and low levels of resilience.

This was also the case in Sapouna & Wolke (2013), who found that high resilience was correlated with low depressive scores. Therefore, it is difficult to make a direct comparison between previous studies with the current study as negative effects were not considered, and disorders such as depression were not measured for. This suggests that the relationship between these two variables may rely on the presence of such disorders and so future research may need to include depression scores as part of the questionnaire.

These studies rely on self-report methods and the previous studies used different peer victimization scales than the one selected for this study. It is possible that the individuals did not want to admit that they had been a victim of PV out of fear of anyone finding out or out of pride, however, the current study was conducted using an online format which ensured confidentiality and anonymity. However, this is still a factor that could have affected the results of this study. In both Sapouna & Wolke's (2013) study and Moore & Woodcock's (2017a) study, students were primarily white and came from middle to high income households, however, ethnicity and socioeconomic background were not established in the current study, therefore it is possible that this could also make the study difficult to generalise to the entire population.

Self-esteem and Resilience

Hypothesis 1(b) stated that self-esteem would uniquely predict resilience which meant that this experimental hypothesis was accepted. This supports the clear majority of research in this area that suggested that there was a relationship between these two variables (Liu et al., 2014). However, most of the research in this area, much like those

looking at PV, have looked at these variables in relation to negative effects such as anxiety and depression, which was not measured in the current study.

The findings of the current study support that of Benetti & Kambouropoulos (2006), who suggested that when exposed to positive affect, resilience was able to predict self-esteem. This highlighted the need to investigate whether self-esteem was able to predict resilience, however, in the current study positive and negative affect were not looked at directly. In the previous study, they also used the CD-RISC to measure resilience therefore it is possible that these findings are similar due to the measures used. However, although the same scale was used, it is possible that they are measuring different things due to the absence of positive and negative affect in the current study.

Previous studies in this area have also suggested that self-esteem and resilience are able to act as protective factors for emotional and behavioural problems (Arslan, 2016). Therefore, a possible note for future research would be to examine whether self-esteem is able to predict resilience when emotional and behavioural problems are present in the sample. Arslan (2016) used a very specific sample of children who had suffered from psychological maltreatment, therefore, it may be interesting to look at a more general sample like the one in the current study.

It is also important to highlight that there is very limited research looking specifically at self-esteem and resilience, therefore, more research would need to be conducted before these results can be generalised and strong conclusions can be drawn. It is possible that the current findings are true due to the measures used or the fact that the scales are self-report and are therefore, susceptible to bias (Crozby & Bates, 2012).

Social Anxiety and Resilience

Hypothesis 1(c) stated that social anxiety would be able to uniquely predict resilience. This experimental hypothesis was accepted; however, the direction of this relationship was unexpected. The results showed that high social anxiety predicted high

levels of resilience. This suggests that an adolescent with high social anxiety will be able to overcome adversity or trauma with ease.

The previous research does support the finding that social anxiety can predict resilience and that there is a relationship between these two variables. This current study supports Clauss et al's (2014) findings who found that there was a relationship between specific brain activation, resilience and social anxiety, however, these studies are difficult to compare as the previous study used brain mapping and scans to measure resilience, whereas, the current study used a self-report measure. Although brain scans are highly used, it is difficult to tell whether the activation in the ACC was solely due to resilience or whether there were other factors being measured.

This study also supports findings by Min et al (2012) who suggested that there was a relationship between trait anxiety and resilience. Although the current findings show that there is a relationship between the variables and that social anxiety can predict resilience, as in previous studies, it is hard to draw strong conclusions and comparisons. The previous studies have looked at the relationship between trait anxiety which is not what has been directly measured, this means that comparisons cannot be drawn. The previous study also looked at a very specific sample, such as individuals who have been diagnosed with anxiety and depression disorders.

These researchers set out to test social anxiety, so the measures used determined whether the participant had high or low levels of social anxiety and not whether they had any diagnosable anxiety disorders. The presence of these disorders could have also affected the results. In previous research, it is possible that the samples were not representative of the entire population of individuals who suffer from such disorders. This type of research usually relies on individuals volunteering to participate and participation is voluntary. Individuals who suffer from anxiety disorder are usually believed to be shy and shy away from uncomfortable social situations such as these (Clauss et al., 2014). Therefore, they would be unlikely to volunteer to take part in these studies, meaning that the findings of research such as Min et

al., (2012) and Clauss et al., (2014) may not be representative and therefore cannot be generalised to the entire population

Although there is overall support for the relationship between these two variables, there is little research that can fully explain the direction of these two variables. The previous research would suggest that high social anxiety would predict low resilience due to the negative outcomes that are attributed to this anxiety disorder (Min et al., 2013), however this was not the case in the current research. Although this was not discussed in Min et al's (2013) research, there are other alternative explanations that could explain why this is.

Although this study was anonymous, the children completed the survey whilst sat next to their peers which could have influenced the accuracy of their results. This could be a possible explanation as to why the results of this study showed that high levels of social anxiety could predict high levels of resilience. It is possible that the participants who had high levels of social anxiety felt uncomfortable in this situation and did not want their peers to look over and see their answers, therefore, they completed it with the answers that they thought were most desirable and portrayed them in the best light. This would have then lead to possible bias in the sample.

Another possible explanation is taken from positive psychology and assumes that an individual who has overcome trauma and difficult situations is able to grow from this experience and become a stronger person (Joseph & Linley, 2004). This is known as growth following adversity or posttraumatic growth (Russo-Netzer & Moran, 2016). This theory suggests that an individual who has suffered from adversity is able to grow and develop as a person, becoming stronger and more resilient, as opposed to someone who has not suffered from adversity in their life (Russo-Netzer & Moran, 2016). Russo-Netzer & Moran (2016) suggested that the individual undergoes three positive changes after adversity; a stronger sense of self, becoming more empathetic, understanding and companionate and becoming more prosocial and generous. Although this research looked at adults specifically, it was found to be consistent throughout different socioeconomic backgrounds and a variety of different types of adversity (Russo-Netzer & Moran, 2016).

Therefore, it is possible that these individuals are socially anxious as a consequence of the trauma that they have had to deal with in their lives, however, they have been able to grow from this experience and become a more resilient person. This would explain the possible onset of the social anxiety as well as giving a possible explanation as to why the individual is resilient.

Gender Differences in Resilience

Hypothesis 3 stated that there would be gender differences in resilience, which meant that the experimental hypothesis was accepted. In this sample, males scored significantly higher in resilience than females. This suggests that males between the ages of 10 and 16 are more resilient than females of this same age group. This supports the findings by Bonanno et al (2007) who found that the females in the sample were less resilient after a traumatic event occurred. This goes against researchers such as Shek, Chi & Lin, (2016) who believed that females can overcome traumatic events better than males. However, it is unknown whether the children in this sample had endured or been a witness to any traumatic event and little is known about their home life, therefore, it is difficult to make direct comparisons between both studies. Bonanno et al (2007) also used a different scale to that used in the current study and their scale did not directly measure resilience or had an overall resilience score. These researchers defined resilience through the presence and severity of factors such as depression, PTSD and life stress after the events of 9/11.

Although this study contributes to the already conflicting research in this area, it is important to highlight that the current sample is made up of adolescents, whereas, Bonanno et al (2007) had a much wider age range and sample size. This study has a similar age range as Moore & Woodcock (2017a), however, the findings vary. This suggests that further research into gender differences and resilience is needed and that individual differences such as age, socioeconomic backgrounds and life events/trauma need to be taken into consideration.

Criticisms and Limitations

As mention previously, self-report measures are also highly susceptible to bias. It is also important to note that, although the use of online surveys reduce the chance of bias (Crozby & Bates, 2012), the children in the current sample completed the questionnaire in a room full of their peers, therefore, although the results were anonymous, they could have feared that the person in the computer next to them could have looked at their answers. In future research, it may be beneficial to implement measures to ensure that the participants are not able to look at each other's answers, possibly having them complete the survey on their own. However, this would make it extremely time consuming and would be difficult to execute as this research relies on the kindness of the high schools to allow the researchers to conduct the data collection during school time.

This research highlights how these predictor variables can collectively and uniquely predict resilience, however, it is possible that resilience could already play a part in the individual's self-esteem and social anxiety score. Resilience could also determine who is most likely to become a victim of PV (Donnon et al 2010 cited in Masten 2011), already placing the individual at risk for negative effects.

Many studies have also used the CD-RISC to measure resilience (Bennetti & Kambouropoulos, 2006; Min et al., 2013), however, many of the studies used the full 25 item scale, whereas this study used the 10-item scale. The 10-item version of the CD-RISC was measured for reliability and validity and the results showed that it was a reliable and valid scale. The 10-item scale was chosen as a way of keeping the scale from being too time consuming, however, the findings could vary from previous research because of the difference in length. This scale has also been translated to many languages such as Korean (Min et al. 2013) which could also impact the findings.

Another factor that needs to be considered when attempting to make generalisations is individual differences. In the current sample, the individuals who participated were all from a variety of different schools and locations and little is known about their individual backgrounds. Previous research has highlighted the importance of family in understanding

resilience (Masten, Best & Garmezy, 1990), however, this was not measured in the current study. The individual's ethnicity, social economic backgrounds and whether they come from a one or two parent household could all be factors that affect resilience (Hseih & Sheck, 2008) therefore this may need to be considered in future research.

Practical Implications

Overall, the findings of this research highlight the need and importance of continuing to further the research into resilience as the possible negative effects are extensive and possibly life threatening (Masten, 2011). These findings are contributing to the research base that will be responsible for developing and implementing strategies and interventions in schools that will help raise resilience levels and hopefully reduce negative effects such as depression, anxiety and suicide ideation. This research also highlights that these are all important factors in school aged children, so schools should be aware of the possible risks and help implement these programs as part of the school's day to day activities.

Research has found that social-work practices in the classroom can be beneficial for increasing resilience and adversarial growth (Gitterman & Knight, 2016). One of the main aspects of this intervention is to encourage the students to work in groups and speak about the struggles that they have gone through. By doing this they are encouraged to find similarities between their stories and those of their peers, showing that they are not alone and work towards finding solutions for their challenges together (Gitterman & Knight, 2016). Researchers also agree that well-being should be taught in schools to help reduce the staggering depression rates in school aged children (Gitterman & Knight, 2016). Seligman et al., (2009) implemented a well-being intervention at an Australian school which aimed to teach well-being, improve life satisfaction and encourage the children to use creative thinking. These researchers implemented the Penn Resiliency Program which aimed to help the student deal with their day to day problems (Seligman et al., 2009). They also taught the students to be optimistic, flexible, to think realistically, make appropriate decisions and how to cope with stress. They found that there was an overall improvement on well-being and

depressive symptoms. They also found that the students were less anxious and had reduced behavioural problems that were present before the intervention took place (Seligman et al., 2009).

This may be a good intervention to implement in more schools as it appears to be beneficial for children and adolescents from a variety of different ethnic backgrounds and socioeconomic status (Seligman et al., 2009). However, there is still very limited research in this area and so further research needs to be conducted for strong conclusions to be drawn.

Conclusion

This research aimed to investigate whether peer victimization, self-esteem and social anxiety could collectively and uniquely predict resilience in school aged children between the ages of 10-16. The researchers also attempted to add to the already conflicting research into gender differences in resilience. Results showed that although the three predictor variables were able to collectively predict resilience, only two (self-esteem and social anxiety) were able to uniquely predict resilience in this sample. It was also concluded that there were gender differences present and that the males in this sample scored higher than the females in the resilience scale. Overall it was concluded that there could be possible explanations for these findings based on the previous research, such as higher self-esteem leading to lower risk of anxiety and depression (Liu et al., 2014). This research also found unexpected findings with high social anxiety being able to predict high levels of resilience, however this could be due to growth from adversity.

Although these findings contribute to the gaps in the resilience literature, there is still a need for these areas to be looked at further and more research to be conducted in order to gain a greater understanding into resilience and the factors that affect it. There are many known negative effects to low levels of resilience, therefore, it is important to continue the investigation into factors that could help raise levels of resilience, especially in adolescents, in order to reduce the chances of negative life outcomes.

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